DEMOCRACY VERSUS DICTATORSHIP: AN EMPIRICAL INVESTIGATION OF DETERMINANTS OF UNEMPLOYMENT

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Abstract

The present research identifies the main factors responsible for high unemployment rate in Pakistan during the period of 1977-2012 with particular interest in the role of political structure. The sample period has been divided into two regimes i.e. democratic and dictatorship using a dummy variable. Using Johansen co-integration test and error correction model the factors of unemployment have been determined. The results reveal that investment growth reduces the unemployment rate both in the short run and the long run. Real GDP growth reduces the unemployment rate only in the long run. Moreover, the study presents a surprising finding that unemployment rate in democratic regime remains significantly higher than that in dictatorship. The study also discusses some important policy implications and recommendations for future studies.

Introduction

Unemployment is a serious concern for every economy. It measures the number of workers who are willing and able to work but cannot find jobs. Being unemployed does not only harm the individuals' wellbeing but also the wellbeing of their families and their societies. Likewise, high unemployment rate specifies that a country is producing below the production possibility curve and dropping a portion of output that could have been produced with the full employment rate.

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Consequently, unemployment generates sequential effects in a way that unemployed individuals abridge their expenditure that further reduces production and enforces the producers to downsize the employees. It also creates some psychological problems like despair, aggression and many other criminal activities i.e. robbery, murdering, stealing, suicide and social unrest (Adewale, 2011).

Unemployment is a world-wide dilemma of developed as well as developing economies, but, it has become more chronic in developing countries. In all those countries, Pakistan is the 6th largest populated country and 10th largest country in the world on account of its labour force. Pakistan is facing a rapid growth of labor force as it has grown from fifty million in 2006 to 59.7 million in 2013. Therefore, unemployment has also increased from 3.10 in 2005-06 to 3.73 million in 2012-2013 (Economic survey of Pakistan, 2012-13). This situation of unemployment in Pakistan is critical and has become a burning issue of Pakistan. From the figure given below, it can be seen that unemployment rate of Pakistan is not acceptable and it gradually increased over the time period.
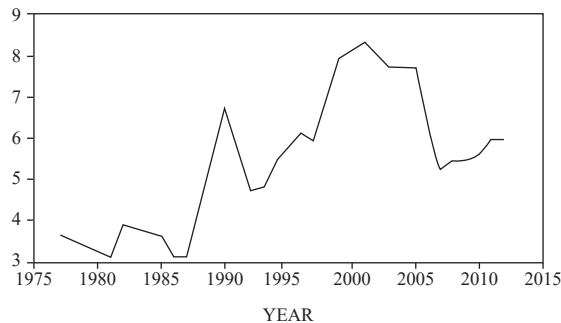

Figure 1: Unemployment Rate in Pakistan

Source: Created by Authors using the data from World Development Indicators.

The Situation of unemployment in Pakistan is distressing owing to agricultural backwardness, worse law and order situation, population pressure, energy crisis, corruption, bad governance and defective educational system (Ali, 2010). But, an important factor that can be considered to be responsible of the increasing unemployment is political structure. Although, Pakistan is a democratic country, he political structure of Pakistan has been instable due to Military dictatorship for a long period of time after certain intervals. Pakistan's political system remained under the hands of military dictators during 1958 -1969, 1979-1988 and 1999 to 2007. The democratic era of Pakistan also consists of three phases i.e. 1970-1979, 1988-1999 and 2007 to onward till this study. Democracy is considered to be the system in which authority is vested in people. It is perceived as the rule of people on people for the wellbeing of people (Richard, 2011). On the other hand, Gandhi (2008) argues that dictatorship is the form of political power acquired through procedures other than fair elections. The Present study intends to investigate, in particular, the role of political structure in

unemployment rate to confirm if democracy really has greater concern with the wellbeing of people.

Ample literature has been established in the favour of determinants of unemployment. Consequently, unemployment is positively correlated to population but negatively related to inflation, FDI, GDP (Rafiq et al., 2010; Arslan & Zaman,2014). Keeping the findings of previous studies into consideration this study aims to identify the main factors of unemployment along with the simultaneous effect of political condition on unemployment in Pakistan for the period of 1977 to 2012. Including the introduction this study has 5 sections: Review of literature has been given in Section 2, data sources and methodology have been explained in Section 3; Section 4 contains the results and discussion; Section 5 has been allocated for conclusion and recommendation.

Literature Review

There are several studies that analyzed the determinant of unemployment both at micro and macro levels. Monternsen (1970) and Lippman and McCall (1976) presented job search model according to which, the anticipated time period of unemployed people relates to the chances of finding and accepting employment offers. Labourers' qualification, skills, experience and labour market conditions are the main requirements for job offer. The chances of job acceptance depend on minimum wage rate defined by the competent authorities. Mark (1997) investigated the factors of unemployment in Russia using different models. He analyzed that the unemployment period of married women is longer than married men. Unemployment period of aged worker is longer than adult worker and less educated persons face longer unemployment period.

Kalim (2003) analyzed the association among unemployment rate, population growth and real GDP growth over the period of 1986-1999 in Pakistan. According to her findings direct association existed between unemployment rate and growth rate of population. Similarly, inverse association was found between unemployment rate and GDP growth rate. She found that population and GDP growths are two determinant of unemployment in Pakistan. Valadkhani (2003) determined the reasons of unemployment in Iran for the period of 1968 to 2008. He found that higher output gap raises the unemployment and unemployment is negatively related to real investment. This study confirms the Philips curve approach due to tradeoff between unemployment and inflation but higher inflation reduces the value of local currency and boosts up economic volatility. Akhtar and Shahnaz (2005) investigated the factors responsible for unemployment in youth for the period 1991-2004 in Pakistan. They found that unemployment of youth decreases when GDP grows faster than 4.25 percent annually. Further, The growth of services sector causes greater reduction rates in women unemployment; the private sector investment reduces youth unemployment. They found that the role of skill acquirement and occupational training in unemployment is insignificant.

Osinubi (2005) investigated the relationship among economic growth, unemployment and poverty in Nigeria for the time period of 1970 to 2000 using 3SLS estimation procedure. The findings

revealed that economic growth responds inversely to the poverty and directly to the unemployment. Chang (2006) determined that how real GDP growth, international trade and FDI affect unemployment rate in Taiwan using vector autoregressive method. This study found that FDI and unemployment are not related to each other, however, unemployment and economic growth are inversely related to each other. Subhan and Hayat (2010) used Ordinary Least Square method to identify the role of price volatility in real GDP growth and unemployment in Pakistan from 1980 to 2000. The results of this study indicated that price volatility reduces economic growth and raises unemployment. In addition to the above, large scale manufacturing sector, exports and foreign direct investment negatively affected the unemployment rate. But, the relationship between imports and unemployment was found to be positive. Schoeman (2008) examined the factors of unemployment in case of South Africa for 1970-2002 and found a negative effect of investment on unemployment. He also found that unemployment is positively related with price level of crude oil, real exchange rate appreciation and contractionary monetary policy.

Eita and Ashipala (2010) examined the factors of unemployment using the data from 1971 to 2007 in Namibia using Engle-Granger method of cointegration. The findings revealed that price level and investment negatively affect the unemployment but output gap, productivity and wages positively affect the unemployment. Adewale (2011) examined the determinants of unemployment in case of Nigerian metropolitan zones for the period of 1978 to 2008. This study showed the negative impact of capacity utilization, private domestic investment and inflation on unemployment. The findings of this study confirm the validity of Philip curve approach in Nigeria. Mehmmod et al. (2014) investigated the factors of unemployment rate in Pakistan using the data from 1990 to 2010. They concluded that the impact of labour force is positive on unemployment whereas the effect of inflation and FDI is negative on unemployment.

Cheema and Atta (2014) employed ARDL bounds testing approach to determine unemployment in Pakistan from 1973 to 2010. The results revealed that the relationship among unemployment, output gap, productivity and economic uncertainty is significant and positive but unemployment is negatively related to gross fixed investment and trade openness.

The above review of literature represents that although many studies have been conducted to determine the factors responsible for the unemployment, the effect of political structure of the economy on unemployment rate is a neglected area. The present study intends to fill this gap by incorporating political conditions as one of the potential determinants of unemployment.

Data and Methodology

Data and Variables

This study employed time series data for the period 1977 to 2012 to investigate the

determinants of unemployment in Pakistan. The data on all variables have been obtained from World Development Indicators mark 2015 and various issues of Economic Survey of Pakistan and Handbook of statistics of Pakistan. The Unemployment rate has been taken as the percentage of total unemployment to total labour force. Gross fixed capital formation has been used as the proxy of investment, GDP is taken in the US $ (as base year 2005). Political situation is measured as dummy variable that is categorized into democratic and non- democratic regimes. The code '0'is used for democratic regime and '1'is used for non - democratic regime. To analyze the relationship of unemployment rate with investment, gross domestic product, and political structure, the following theoretical functional form has been used:

$$UN=f(INV, GDP, PS)$$

Multiple regression model for the above function is given in below equation,

$$UN_t = \beta_0 + \beta_1 INV_t + \beta_2 GDP_t + \beta_3 PS_t + \varepsilon_t \dots\dots(1)$$

Where, UN= unemployment rate (% of total labour force),

INV = investment (real value in US dollars)

GDP= Gross domestic product (constant 2005 US$)

PS1= dummy variable for political structure

ε_t= Residual term

β_0 is constant and β_1, β_2, and β_3 are slope coefficients

Estimation Technique

The co-integration technique and error correction model have been applied to the time series data for analyzing the effects of independent variables selected in this study on unemployment rate. Before conducting this analysis, Augmented Dickey Fuller (ADF) unit root test has been employed to check the time series properties of all the variables used in this study. ADF test can be conducted using the following equation:

$$\Delta Y_t = \beta_0 + \beta_0 T + \delta Y_{t-1} + \alpha_i \sum_{m=1}^{\cdot} \Delta Y_{t-1} + \varepsilon_t \dots\dots(2)$$

This test focuses on the value of δ to check unit root. Variable is said to be stationary if the calculated tau statistic ($|\tau|$) exceeds the critical values.

Johansen (1991) designed cointegration test to check long run or equilibrium relationship among time series variables. This test is appropriate for more than one long run associations, which is

better than traditional Engle-Granger test (Engle & Granger, 1987). Engle-Granger cointegration test is applicable for only one long run association. Johansen co-integration test is based on maximum likelihood approach. This test is employed if all the time series used in a model are stationary at level form. According to the properties of integrated series if two variables e.g. X and Y are I(1) then their linear combination should be I(1). However, a special case is of co-integration which requires if X and Y both are I(1) their linear combination should be I(0). Johansen co-integration test employs two slightly different tests i.e. Maximum Eigenvalue test and Trace test for determining if the long run association among the selected variables is significant. If the long-run association among integrated variables exists, we can employ error correction model (ECM) of the following form to determine short run and long run relationships simultaneously:

$\Delta(\ln UN_t) = \beta_0 + \beta_1 \Delta(\ln INV_t) + \beta_2 \Delta(\ln GDP_t) + \beta_3\ PS_t + \beta_4\ ECT_{t-1} + \varepsilon_t$..(3)

In above equation, ECT_{t-1} represents the lagged error and β_4 is its coefficient which measures the speed of convergence.

Results and Discussion

Before determining the role of independent variables in unemployment in Pakistan ADF test has been employed for determining the level of stationary of the selected time series. The results of ADF test have been presented in Table 4.1.

Table 4.1
The Results of ADF Test

Variables	At Level	At 1st difference
LGDP	-2.46	-3.76**
LUN	-1.58	-4.57**
LINV	-2.18	-4.56**

Note: '**' indicates 5% level of significance.

The results of ADF test show that all of the variables are integrated at 1st difference at 5% significance level. These results confirm that classical linear regression model is not appropriate to be employed. Findings of unit root test given in table 4.1 confirm the appropriateness of Johansen co-integration test in case of present study.

Table 4.2 and 4.3 contain the results of Johansen co-integration. Both tests reflect that one co-integrating equation exists in the system. The H0 of no co-integrating equation is rejected in the favour of H1 that assumes that there is at least one co-integrating equation according to both tests. Table 4.2 and 4.3 represent that the computed values of trace test and maximum eigenvalue are greater

than their respective critical values in first equation. The above mentioned finding confirms the appropriateness of the application of error correction model in order to determine short run and long run elasticities simultaneously.

Table 4.2
Johansen Cointegration Test (Trace)

No of CEs	Eigenvalue	Trace Statistics	5% Critical Value	Prob*
None	0.59	40.10	29.79	0.00
At most 1	0.31	13.41	15.49	0.10
At most 2	0.07	2.19	3.84	0.13

** p-values have been used from MacKinnon-Haug-Michelis (1999)

Table 4.3
Johansen Cointegration Test (Maximum Eignevalue)

No of CEs	Eigenvalue	Max. Eigenvalue Statistics	5% Critical Value	Prob*
None	0.59	26.69	21.13	0.00
At most 1	0.31	11.22	14.26	0.14
At most 2	0.07	2.19	3.84	0.14

* p-values have been used from MacKinnon-Haug-Michelis (1999)

Table 4.4 contains the results of error correction model. We used Δ(LnUN) as dependent variable. Coefficients of the variables in first difference are short run elasticities, whereas coefficients of the variables in lag form are long run elasticities. The results reveal that the effect of investment on unemployment is negative significant both in the short run (β=-0.64, P=0.03) and long run (β=-1.15, P=0.00). One percent increase in investment reduces unemployment by 0.64 percent in the short run and 1.15 percent in the long run. This indicates that the effect of investment on unemployment is higher in long run than that of in short run. Changes in real GDP have no role in unemployment variations in the short run (β=-1.24, P=0.33). Nonetheless, the effect of real GDP on unemployment is negative and significant in the long run (β=-1.22, P=0.00). It indicates that one percent increase in real GDP reduces the unemployment by 1.22 percent in the long run. The main variable of concern is political structure (PS) in the context of present study. This variable has been used as a dummy with codes 0 and 1 for the democratic periods and military regimes simultaneously. The results are surprising as the coefficient of political structure (PS) (β=-0.30, P=0.00) is negative significant. It reveals that on average unemployment rate in military regime is 0.3 percent lower than that in

democratic regimes.

Table 4.4
Error Correction Model

Variables[1]	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.24	2.54	-1.31	0.21
Δ(LnINV)	-0.64	0.31	-2.06	0.03
Δ(LnGDP)	-1.24	1.26	-0.98	0.33
LnUN(-1)	-0.46	0.13	-3.54	0.00
LnINV(-1)	-1.15	0.42	-2.74	0.01
LnGDP(-1)	-1.22	0.39	-3.13	0.00
PS	-0.30	0.10	-3.00	0.00
R2	Adj. R2	D-W stat	F-Stat	Prob (F-stat)
0.40	0.39	1.61	29.35	0.01

Note: Δ(LnUN) is dependent variable.

The coefficient of Lag form of dependent variable (LnUN(-1)) is negative significant (β =-0.46, P=0.00). It shows that unemployment rate, after having some external shock, converges to its equilibrium at the speed of 0.46 percent per year. Necessary statistics have been given at the bottom of table 4.4.

Conclusion and Implications

Being a burning issue of every economy, unemployment is a hurdle in the way of economic development. Previous literature has identified different determinants of unemployment. But this study is different from the previous studies because political structure has been taken into account as one of the other main determinants of unemployment in Pakistan from 1977-2012. The results indicate that if government undertakes such policies that attract investment and accelerate real GDP growth then the problem of unemployment can be controlled in Pakistan particularly in the long run. This is evident from the negative effects of investment and real GDP growth on unemployment in the long run. These effects necessitate that the governments should introduce long term policies to induce investment and real GDP growth. The main finding of this study is the unexpected role of political structure in unemployment rate. According to the findings of this study unemployment rate in democratic regimes remained on average 0.3% higher than that in military regime. This is an alarming finding for the proponents of democracy in Pakistan. This shows that militant rulers worked better than the democratic rulers during the period of study to reduce the unemployment in Pakistan. This

study raises some important questions for future studies. Is democracy really a rule of people on people for the wellbeing of people? This question should be investigated by incorporating other economic and social development indicators for instance poverty, literacy rate and health conditions etc. Another important question is what the main reasons of high unemployment rate are during democratic regimes: Is it the problem with democracy or with democratic politicians?

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